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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,261	03/22/2004	Kenneth Priddy	200314321-1	1933

22879 7590 08/06/2007
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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

RIAD, AMINE

ART UNIT	PAPER NUMBER
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2113

MAIL DATE	DELIVERY MODE
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08/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,261

Applicant(s)

PRIDDY, KENNETH

Examiner

Amine Riad

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 1-14 have been presented for examination.

Claims 1-14 have been rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelkar U.S. Patent 7,058,846.

In regard to claims 1 and 7

Kelkar discloses a computer cluster comprising:

storage media; (Figure 1; item 140)

a first computer having a first instance of an application program installed, said

application program having instructions, (Figure 2; item 110A)

said first computer including,

volatile memory; (Figure 7; item 717)

processing means (Figure 7; item 714)

for executing instructions of said first instance of said application program so as to modify data stored in said volatile memory (Column 5; lines 8-9)

for creating a snapshot of said data while said first instance of said application program is running, said snapshot being stored in said volatile memory, (Column 3; lines 40-44)

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and for while said first instance of said application continues to modify said data so that it diverges from said snapshot transferring said snapshot from said volatile memory to said storage media, and (Column 3; lines 40-40 “services that allow configuration changes to be made dynamically to storage resources”)

a second computer having a second instance of said application program installed, (Figure 2; item 110b) said second computer including means for accessing said storage media so that said second instance of said application can access said snapshot as stored on said storage media (Figure 2 ; item 110b).

In regard to claim 2

A computer cluster as recited in Claim 1 wherein said processing means includes a data processor (Figure 7; item 714)

for executing instructions of said first instance of said application program so as to modify data stored in said memory, and (Column 3; lines 36-37 “a clustering environment in which storage configuration changes can be made dynamically” [dynamic change entails modified stored data])

for creating said snapshot of said data while said first instance of said application program is running, (Column 3; line 43) said snapshot being stored in said volatile memory (Figure 1; item 140d), and a transfer processor for transferring said snapshot from said volatile memory to said storage media while said first instance of said first instance of said application program is running. (Figure 1; 102 a)

In regard to claim 3,

Kelkar discloses a computer cluster, as recited in Claim 1 further comprising a first

cluster daemon running on said first computer for causing said snapshot to be created. (Column 3; lines 39-40 "These operations include storage management services that allow configuration changes to be made dynamically" [Examiner considers management services as a daemon])

In regard to claim 4

Kelkar discloses a computer cluster as recited in Claim 1 further a second cluster daemon running on said second computer, said second cluster daemon providing: for detecting a failure that prevents said first instance of said application program from running on said first computer (Column 5; lines 26-28), said failure detector, and for causing, in response to said detecting a failure, said second computer to process said snapshot in accordance with instructions of said second instance of said application program. (Abstract; "If a node that has made a resource configuration fails, the resource configuration change is available for use by other nodes in the set, each of which can resume operations of the failed node")

In regard to claim 5

Kelkar discloses a computer cluster as recited in Claim 1 wherein said processing means provides for, in response to a write access of a section of said volatile memory in accordance with instructions of said first instance of said application program, copying data in that section so that one instance of said data originally in that section is modified and the other copy of data originally in that section is not modified. (Column 3; line 41 [Kelkar discloses changes are made dynamically to storage resources this that while the write process is made to the memory by the processor only the new data involved in the

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transaction is made available to the storage because it is dynamic])

In regard to claims 6 and 12

Kelkar discloses a computer cluster as recited in Claim 2 wherein said data processing means maintains state data, said snapshot data including at least some of said state data. (Column 3; line 44)

In regard to claim 8

Kelkar discloses a method as recited in Claim 7 further comprising executing a second instance of said application program on a second computer of said computer cluster using said snapshot as a starting state. (Abstract; "If a node that has made a resource configuration fails, the resource configuration change is available for use by other nodes in the set, each of which can resume operations of the failed node")

In regard to claim 9

Kelkar discloses a method as recited in Claim 8 further comprising detecting a failure that prevents execution of said first instance of said application program, said detecting occurring after said transferring and before said executing a second instance. (Column 5; lines 26-28)

In regard to claim 10

Kelkar discloses a method as recited in Claim 8 wherein said executing a second instance follows said transferring without an intervening detection of a failure. (Column 4; lines 53-56 "To make resources configuration available to another node that can resume operation of node 110a **upon failure**, the invention synchronizes resources

configuration data")

In regard to claim 11

Kelkar discloses a method as recited in Claim 7 wherein said transferring is effected by a data transfer processor not used in executing said first instance of said application.

(Figure 3; items 330a and 330b)

Response to Applicant's argument

Applicant arguments filed on June 19, 2007 have been fully considered, and are not persuasive.

In regard the first argument, which states "Kelkar deals with configuration data that changes infrequently. As those skilled in the art would understand, 'configuration data' typically refers to data that is not changed frequently. Since Kelkar updates configuration data infrequently, it is rarely the case that configuration data would need to be updated again while an earlier configuration update was being propagated" Examiner respectfully disagrees. Examiner refers Applicant to (Column 3; lines 66-67) and (Column 4; lines 1-3) conveniently attached here for the Applicant "The present invention is discussed with regard to storage configuration information, although one of skill in the art will recognize that the present invention applies to other types of information that may be needed to recover from failure of hardware or software." The above disclosure proves that Kelkar does not only deal with configuration data that changes infrequently, but Kelkar covers also software application errors. Argument is not valid.

In regard the second argument, which states "Kelkar does not disclose or suggest transferring a copy of configuration data while the configuration data is being updated. Nor does Kelkar disclose or suggest transferring a snapshot of configuration data while the configuration data is in a state that differs from the state represented in the snapshot" Examiner respectfully disagrees. Examiner points Applicant to "The present invention provides a method, system, and computer program product to make resource configuration information available to nodes in a cluster in as close to **real time** as possible with minimal overhead. Resource configuration data are synchronized at nodes in the cluster, thereby enabling a node having synchronized configuration data to resume operations of a failed node" (Column 3; lines 35-40), also Examiner points Applicant to (Column 6; lines 19-25) "In action 3.6, cluster manager 330B receives configuration data 305 indicating that resource attributes 372A are changed. In action 3.7, cluster manager 330B provides configuration data 305 to resource configuration manager 360B. In action 3.8 resource configuration manager 360B updates resource attributes 372B using configuration data 305 to reflect the changes made to resource attributes 372A. Resource configuration data 370A and 370B are now synchronized" Examiner with the last disclosure proves that in contrary to what Applicant advances, Kelkar transfers snapshot data while the data is in a state that differs from the state presented on the snapshot, because Kelkar synchronizes as close to real time as possible. The argument is not valid.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amine Riad whose telephone number is 571-272-8185. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR

Amine Riad

Patent Examiner

7/25/07

Robert M. Bransford
PATENT EXAMINER
UNIT 2113
7/25/07